

International Warning- and Alarm Plan Rhine

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Internationale
Kommission zum
Schutz des Rheins

Commission
Internationale
pour la Protection
du Rhin

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Commissie ter
Bescherming
van de Rijn

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International Commission for the Protection of the Rhine (ICPR)
Kaiserin-Augusta-Anlagen 15, D 56068 Koblenz
P.O. box 20 02 53, D 56002 Koblenz
Telephone +49-(0)261-94252-0, Fax +49-(0)261-94252-52
Email: sekretariat@iksr.de
www.iksr.org

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1. General remarks

1.1 The objective of the Warning and Alarm System is, to pass on reports on sudden pollutions with substances noxious to water in the Rhine watershed, if the amount and concentration may detrimentally impact the Rhine water quality and to warn the authorities in charge of fighting accidents so that

- Threats may be fought,
- Causes may be identified
- Polluters may be identified
- Measures to clean up pollution may be taken
- Measures to avoid and reduce damage may be taken,
- Consequential damage may be avoided.

Damaging incidents, which are expected to raise great public interest, should be reported as information.

1.2 7 international main warning centres (IHWZ, see annex 1) are implied: Amt für Umwelt und Energie des Kantons Basel-Stadt, Basel (R1); Préfecture du Bas-Rhin, Strasbourg (R2) Regierungspräsidium Karlsruhe, Landespolizeidirektion (R3); Wasserschutzpolizeistation Wiesbaden (R4); Wasserschutzpolizeistation Koblenz (R5); Bezirksregierung Düsseldorf (R6), Rijkswaterstaat directie Oost-Nederland, Arnhem (R7), and the secretariat of the International Commission for the Protection of the Rhine (S).

1.3 The international main warning centre, in the area of competence of which the accident occurs, is in charge of the initial report (annex 2). This competence is only transferred to another international warning centre, when coordination per telephone is not possible or the location of the accident is unknown. If the responsibility is not obvious, the warning centres in charge are obliged to come to a rapid agreement on who will take over the responsibility for following up the case in question.

1.4 A report can be passed on as a "warning", or as "information". In case of serious water pollution, a "warning" will always be issued.

1.5 Reports by fax and by telephone must always follow the exact pattern of reports (annex 3).

1.6 In case of first reports, at least the points A to H of the report pattern must be included. If the pollutants are not known, E and F of the initial report need not be indicated, so that delayed reporting can be avoided. If required, reports on points J to L must follow as rapidly as possible.

- 1.7 In case of a warning, the international warning centres must at all times dispose of sufficient qualified personnel familiar with the proceedings. The documents belonging to the Warning and Alarm Plan and a manual or a database on dangerous goods and pollutants accompanied by a list of identifications (CAS) must always be at hand (see annex 4 for manuals on dangerous goods and pollutant databases).
- 1.8 All international main warning centres keep a chronological reporting book of each warning. This reporting book includes:
 - Time and content of all incoming and outgoing telephone calls, fax reports and emails,
 - List of persons reported to
 - Measures, investigations,
 - Monitoring results.
- 1.9 The International 'Warning and Alarm System Rhine does not alter existing regional and national warning services. Reports within the international Warning and Alarm System Rhine are immediately passed on by the international warning centres to the regional and national warning authorities.
- 1.10 The telephone numbers of the international warning centres and of the secretariat and the international dialling codes are listed in annex 6. Modifications of fax and telephone numbers must immediately be reported to the international warning centres and to the secretariat.
- 1.11 When monitoring data are in excess of the guidance values listed in annex 5, information according to the Warning and Alarm Plan will be released.

2. Fax reports

- 2.1 The international warning centre in charge passes on the first report per fax to the downstream international main warning centres as rapidly as possible.

If the location of the accident is known, reports are sent to all downstream international warning centres and to the secretariat of the ICPR. If the location of the accident is not clearly identified, a report („Search report“) is sent to all international main warning centres up- and downstream and to the secretariat of the ICPR.

Pollutions in Sarre and Moselle are only passed on within the Warning and Alarm System Rhine if the accident is suspected to impact the Rhine. R5 enters pollution events relevant for the Rhine into the Warning and Alarm System Rhine.

- 2.2 Questions per fax and their answers are directly addressed to the relevant international Warning and Alarm Centre with copies to all other Warning and Alarm Centres up- and downstream which also received the first report, as well as to the ICPR secretariat.
- 2.3 Addressees of fax reports, questions and answers per fax must be identifiable (abbreviations as listed in annex 3 are to be used).

2.4 A fax report begins as follows:

SOS - Rhin - SOS - Rhein - SOS - Rijn - SOS

très urgent - eilt sehr - spoed

Avertissement - Warnung - Waarschuwing
ou/oder/of

Information - Information - Informatie

2.5 For fax reports the electronic "Word" template is to be used.

2.6 After releasing a warning, the international main warning centres having received the warning must report to the releasing authority by fax that the warning has been received and understood. If the releasing warning centre does not receive such report in return, the warning must be repeated.

3. Telephone reports (only in cases of fax failures)

3.1 The international main warning centre (areas of responsibility see annex 2) passes on the report by telephone to the next affected international main warning centre(s):

In particular cases, and if required due to local conditions, the report can be passed on upstream the main direction of flow. Double reports are to be avoided.

3.2 In cases of pollutions in Switzerland, only the international main warning centre in Basle will pass on the report to the international main warning centre in Karlsruhe. The international main warning centre in Strasbourg will also receive the report from Basle, but not pass it on to Karlsruhe.

3.3 In case of an accident in the area of responsibility of the international warning centre Karlsruhe the international main warning centre Basle and Strasbourg will, if they are considered to be "downstream" of the location of the accident, and the international main warning centre Koblenz be directly informed by Karlsruhe. In this case, Basel and Strasbourg need not pass on the report.

3.4 In cases of pollutions in the area of responsibility of the international main warning centre Karlsruhe, only the international main warning centre in Karlsruhe will pass on the report to the international main warning centre in Koblenz. The international main warning centre in Wiesbaden will also receive the report from Karlsruhe, but not pass it on to Koblenz.

3.5 In case of an accident in the area of responsibility of the international warning centre Koblenz, the international main warning centre Karlsruhe and Wiesbaden will, if they are considered to be "downstream" of the location of the accident and the international main warning centre Düsseldorf be directly informed by Koblenz. In this case, Karlsruhe and Wiesbaden need not pass on the report.

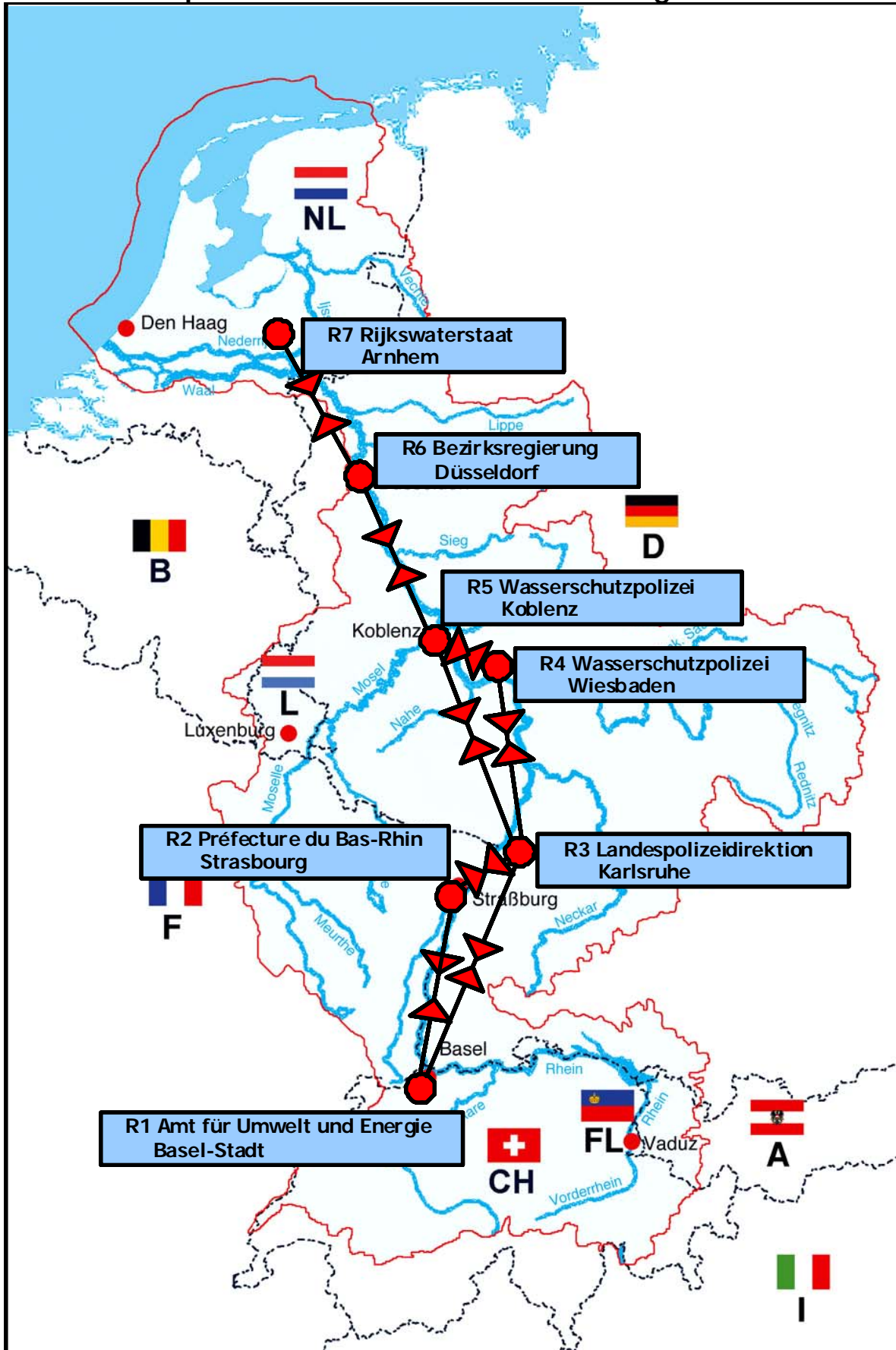
3.6 Pollutions in Sarre and Moselle are only passed on within the Warning and Alarm System Rhine if the accident is suspected to impact the Rhine. R5

enters pollution events relevant for the Rhine into the Warning and Alarm System Rhine.

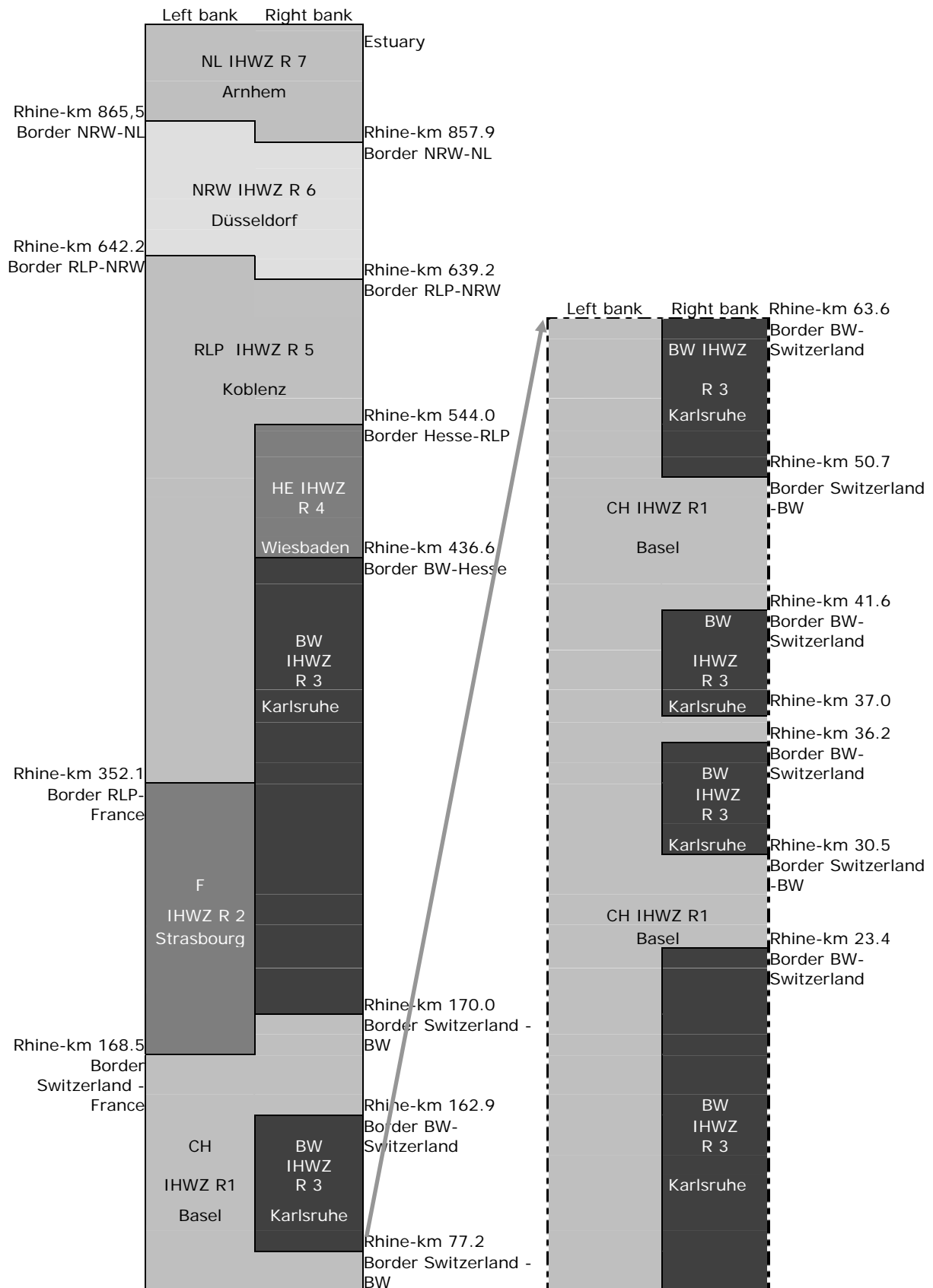
4. All clear signal

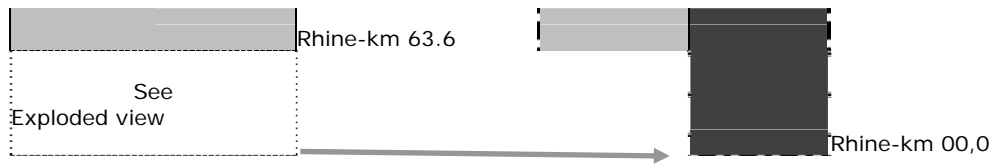
- 4.1 As soon as the danger is over after a „Warning“, it will be cleared per fax for the different sections (reporting scheme, points L to O). The all clear signal is passed on to all up- and downstream international main warning centres which received the fax report and to the secretariat of the International Commission for the Protection of the Rhine. The addressees should be recognizable.
- 4.2 For river sections in the area of responsibility of two international main warning centres, the centres concerned will first decide on which centre gives the all clear signal.
- 4.3 As soon as the all clear signal has been given for a river section, the next downstream international main warning centre takes over.

Map of the international main warning centres



Areas of responsibility of the international main warning centres according to the Warning and Alarm Plan Rhine





INTERNATIONAL WARNING- AND ALARM SYSTEM "RHINE"

Reporting scheme for passing on reports

SOS - Rhin - SOS - Rhein - SOS - Rijn - SOS
Extremely urgent
Warning
Information -

- (A) + A 1 Reporting international main warning centre
R.... M....
- + A 2 Name of the person reporting
- + A 3 Date
- + A 4 Time
- (B) **Location of the accident**
- + B 1 Name of the location of the accident
- + B 2 Water body
- + B 3 River bank Left/right/middle
- + B 4 River kilometre
- (C) **Time of accident**
- + C 1 Date
- + C 2 Time
- (D) **Type of accident**
- (E) + D (e.g.: Breakdown, shipping accidents ...)
-
- (E) **Substance implied in the accident**
- + E 1 Name of the substance
- ..

- + E 2 Number identifying the substance (CAS.)
- (F) + F 1 Amount poured into the water t or m³
- + F 2 Duration of flow hours
- (G) **Extent of water pollution already identified/**
- + G 1 Fish kill Yes/No
- + G 2 Discolouration of water Yes/No
- + G 3 Odour Yes/No
- Floating substances**
- + G 4 Length m
- + G 5 Width m
- (H) + H 1 Water level ... cm, Gauging station
- + H 2 Runoff m³/s
- + H 3 Flow velocity km/h
-

Later reports on the accident may include additional expert information:

(I) **+ I 1** Measures taken
.....
.....
 Media reactions
.....
.....

(J) **Data on the pollutant concentration in the water body/**

+ J 1 Calculated mg/l
+ J 2 Measured mg/l

(K) **Impact on water quality**

(e.g.: Lack of oxygen, fish kill, colour, odour, noxious effects on human beings, fauna and flora)

.....
.....
.....
.....
.....
.....
.....
.....



As soon as the danger is over, the following report is to be issued following a warning:

SOS - Rhin - SOS - Rhein - SOS - Rijn - SOS

Extremely urgent

All clear signal

- (L) + L 1 Reporting international main warning centre
 R ... M
- + L 2 Name of the person reporting
- + L 3 Date
- + L 4 Time

(M) **Location of the accident**

- + M 1 Name of the location of the accident
- + M 2 Water body
- + M 3 River bank Left/right/middle
- + M 4 River kilometre

(N) **Time of accident**

- + N 1 Date
- + N 2 Time

(O) C **All clear signal**

- + O 1 Section concerned by the all clear signal from km to km
- + O 2 Reason for the all clear signal

Annex 4

Manuals on Hazardous Substances and Pollution databases

French

- Guide orange des Sapeurs Pompiers de Genève

German

- Gefahrgut-Handbuch, K. Ridder, Ecomed Verlagsgesellschaft mbH, Landsberg/Lech
- Gefahrgut-Merkblätter, Kühn/Birett, Ecomed Verlagsgesellschaft mbH, Landsberg/Lech
- Handbuch der gefährlichen Güter, Hommel u. a., Springer-Verlag, Berlin
- Chemdata

Dutch

- Vervoer van gevaarlijke stoffen over de weg, Staatsuitgeverij, Den Haag

English

- European Agreement concerning the international carriage of dangerous goods by road (ADR), United Nations, Economic Commission for Europe, Geneva

Pollution databases:

Denomination	Abbreviation	Internet address	Entries	Language
Gemeinsame Stoffdatenbank des Bundes und der Länder	GSBL	http://www.gsbl.de	320.000	d
Informationssystem für gefährliche Stoffe	IGS	http://igsvtu.lanuv.nrw.de	18.000	d
Stoffdatenbank für bodenschutz- und umweltrelevante Stoffe	STARS	http://www.stoffdaten-stars.de	1.100	d
Gefahrstoffdatenbank der Länder	GDL	http://www.gefahrstoff-info.de	20.000	d
Gefahrstoffinformationssystem Berufsgenossenschaft	GESTIS	http://www.hvbg.de/d/bia/gestis/	8.000	d, e
Wassergefährdungsklassen	WGK	http://www.umweltbundesamt.de/wgs/	2.000	d, e
Transport-Unfall-Informationssystem und Hilfeleistungssystem	TUIS	http://www.vci.de		d

Criteria for releasing a report within the International Warning- and Alarm System "Rhine"

General criteria

An information, warning or search announcement is released, when pollutants are released in quantities apt to detrimentally impact the Rhine water quality, to damage water organisms and/or to limit the use of the water body, e.g. in cases of

- A considerable excess of limit values for discharge permits;
- serious breakdowns;
- Releases of substances during transportation;
- Unusual rise in the concentration of chemical, physical or organoleptic parameters.

In addition, the individual case must be considered to determine, whether an information or warning is required in cases of

- Reports resulting from continuous biotests in cases of secured „biotest alarms“ (notion related to the procedure);
- Reactions expected in the public and the media.

In cases of dangerous situations and damage, the danger is to be evaluated on the basis of

- Substance properties
- Amounts of substance
- Characteristics of the location
- Extension on the surface.

Guidance values

The following guidance values are recommended for concentrations and pollutant loads leading to an information, warning or search report within the International Warning and Alarm Plan Rhine.

a) Concentration guidance values

The concentration guidance values concern the following monitoring stations along the Rhine:

- Weil am Rhein (CH,D)
- Karlsruhe (D,F)
- Worms (D)
- Bad Honnef (D)
- Düsseldorf/Flehe (D)
- Bimmen/Lobith (D,NL)

- If values are in excess of these guidance values, and depending on the pollutant concentration and present knowledge, an information, a warning or search report is issued within the Warning and Alarm Plan.

Guidance values for concentrations in excess		
Parameter	Daily mean concentration value	
	Value	Unity
pH	< 6,5 > 9,5	
Conductivity	1000	µS/cm
Oxygen	< 5	mg/l
Heavy metals		
Arsenic	10	µg/l
Lead	20	µg/l
Cadmium	3	µg/l
Chromium total	50	µg/l
Copper	20	µg/l
Nickel	20	µg/l
Mercury	1	µg/l
Zinc	500	µg/l
Organic Micro-pollutants		
PAH (individual substances)	0,1	µg/l
Sum of PAH	0,5	µg/l
Biocides (individual substances)	0,3	µg/l
PCB (individual substances)	0,1	µg/l
Plant protective agents (individual substances)	0,3	µg/l
Pharmaceutical substances (individual substances)	0,3	µg/l
Other organic micro-pollutants (individual substances)	3	µg/l
Further inorganic parameters		
Cyanide	5	µg/l
Chloride	300	mg/l
Sum parameters		
TOC	15	mg/l
AOX	25	µg/l
Radioactivity		
Parameter	Activity	
Total-γ (total-Gamma)	25	Bq/L above ≥ 2 h
Tritium	100	Bq/L

b) Guidance values for discharged loads

- In general, daily loads apply to indications of the polluter.
- In cases daily loads exceed guidance values, information or warning is issued by the authorities in charge, all depending on amounts and available knowledge.

Guidance values for discharged loads		
Parameter	Daily loads	
	Value¹	Unity
Heavy metals		
Arsenic	0,5	t
Lead	1	t
Cadmium	0,15	t
Chromium total	2,5	t
Copper	1	t
Nickel	1	t
Mercury	50	kg
Organic micro-pollutants		
PAH (individual substances)	5	kg
Sum of PAH	25	kg
PCB (individual substances)	5	kg
Biocides (individual substances)	15	kg
Plant protective agents (individual substances)	15	kg
Pharmaceuticals (individual substances)	15	kg
Other organic micro-pollutants (individual substances)	150	kg
Further inorganic parameters		
Cyanide	250	kg
Sum parameters		
TOC	750	t
AOX	1,25	t
Radioactivity		
Parameter		
Total-γ (total-Gamma)	1.250	GBq
Tritium	5.000	GBq

c) Remarks

Independently of the afore indicated guidance values concerning the release of a supra-regional information/warning/search report these will not be able to cover the requirements in the immediate vicinity of the accident location. These requirements must be pointed out in local or regional Warning and Alarm Plans.

It is up to the expert judgement of the authorities in charge to decide, whether information and search reports on events leading to concentrations or loads below the

¹ The guidance values for discharged loads leading to the release of an information were calculated on the basis of the guidance values for concentrations in excess at the monitoring station Mainz-Wiesbaden during mean normal runoff.

guidance values are passed on downstream. The addressees for information or search reports depend on the context.